

WHAT IS CLAIMED IS:

- Sub AH 1. A surgical tool, comprising:
2 a tip having at least one mechanical cutting edge; and
3 at least one electrode formed integral with the tip.
- 1 2. The surgical tool of claim 1, wherein the at least one electrode comprises one of
2 titanium, platinum, copper, nickel, tin, gold, chromium, iron, and silver.
- Sub AS 3. The surgical tool of claim 1, wherein the at least one electrode comprises at least one
2 wire rod, the wire rod having a thickness of about 0.25 mm.
- 1 4. The surgical tool of claim 1, wherein the tip further comprises a cavity and wherein
2 the at least one electrode comprises a wire rod embedded in the cavity.
- 1 5. The surgical tool of claim 1, wherein the at least one electrode further comprises a
2 non-stick coating.
- 1 6. The surgical tool of claim 5, wherein the non-stick coating comprises one of
2 fluoropolymers, ceramic titanium alloys, and ceramics.
- Sub AG 7. The surgical tool of claim 4, wherein the at least one electrode comprises a wire rod,
2 the wire rod having a thickness of about 0.6 mm.
- 1 8. The surgical tool of claim 1, wherein the tip comprises one of silicon carbide,
2 tungsten carbide, sapphire, steel, and diamond.
- 1 9. The surgical tool of claim 1, wherein the at least one electrode comprises a friction
2 reducing compound.
- 1 10. The surgical tool of claim 1, wherein the surgical tool further comprises a contact
2 electrode in electrical communication with the at least one electrode.
- 1 11. The surgical tool of claim 1, wherein the tip comprises one of a lance and bifacet
2 edge.

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12. The surgical tool of claim 1, wherein the at least one electrode comprises one of titanium nitride, silicon carbide, or tungsten carbide.

13. A method of manufacturing a surgical tool, comprising:
coupling a tip to a handle;
forming at least one cutting edge on the tip; and
forming at least one electrode integral with the tip.

14. The method of claim 13, further comprising coupling a contact electrode to the handle and establishing an electrical communication with the at least one electrode.

15. The method of claim 14, further comprising coupling an energy source to the contact electrode and delivering an electrical current to the at least one electrode through the contact electrode.

16. The method of claim 13, further comprising applying a non-stick coating to the at least one electrode.

17. The method of claim 13, further comprising applying a friction reducing coating to the at least one electrode.

18. The method of claim 13, wherein the forming step further comprises forming a cavity in the tip and embedding the at least one electrode in the cavity.

19. The method of claim 13, wherein the forming step further comprises bonding the at least one electrode to an edge of the tip.

20. The method of claim 13, further comprising removing the at least one electrode by acid etching.

21. The method of claim 13, further comprising coupling the tip to a locking mechanism.

22. The method of claim 13, further comprising coupling the tip to a cooling mechanism.

23. The method of claim 15, further comprising delivering the electrical current through an edge of the tip.

1 24. A surgical tool, comprising:
2 a housing; and
3 an electrically conductive tip coupled to the housing, the tip having a mechanical
4 cutting edge bonded to a portion of the tip.

1 25. The surgical tool of claim 24, wherein the tip further comprises one of tungsten
2 carbide, silicon carbide, sapphire, steel, and diamond.

1 26. The surgical tool of claim 24, wherein the at least one electrode comprises one of
2 titanium nitride, silicon carbide, or tungsten carbide.

1 27. A surgical tool comprising,
2 a tip coupled to a handle, the tip including a diamond cutting edge;
3 and a plurality of electrodes formed on a surface of the tip, the plurality of electrodes
4 not covering the cutting edge.

1 28. A surgical tool, comprising:
2 a tip having a mechanical cutting edge, the tip being coupled to a handle;
3 a push/pull device formed integral with the handle; and
4 an electrode coupled to a distal end of the push/pull device, the electrode passing
5 across a surface of the tip, when the push/pull device is actuated.

1 29. A system for cauterizing and cutting, comprising:
2 a surgical tool having a tip and a handle coupled to the tip, the tip including a
3 mechanical cutting edge and at least one electrode formed integral with the tip;
4 a contact electrode passing through the handle and electrically coupled to the at least
5 one electrode; and
6 an energy source coupled to the handle to delivery electrocautery energy to the at
7 least one electrode via the contact electrode.

31. The surgical tool of claim 30 further comprising a button formed integral with the handle and an energy source in electrical communication with the contact electrode.

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